

Birds of a Feather



Dear Educator,

This packet has been developed to help you teach your students about birds, focusing on those found living in or migrating through the refuge.

Identification, adaptation, and migration are the three key concepts developed in these lessons. It is hoped that the birds the children see and study on their field trips and near their homes will act as ambassadors for the environment and instill in the children a sense of wonder and appreciation for the natural world.

Sincerely,

The Refuge Environmental Education
Development (REED) Team



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Birds at the John Heinz National Wildlife Refuge at Tinicum Learning about Them, Teaching about Them, and Watching Them.

Watching birds is one of the most popular activities at the refuge. Birds are more readily observable than many other species because they are active in the daytime and are often visible to humans as they rest or feed in the vegetation or water. Birds are a little more likely to let us approach them, as they can quickly hide or fly away to safety if they need to.

Birds seem to fascinate us. Think how often the names of birds appear in our popular culture! The Philadelphia Eagles, Seattle Seahawks, St. Louis Cardinals, and the Toronto Blue Jays, among others, have adopted the names of birds that convey prowess, beauty, or speed. Think also of our many expressions related to birds: eyes like a hawk, swift as an eagle, bird's-eye view, and even of birds featured in cartoons and films - Woody Woodpecker, the Roadrunner, and Tweetybird, for example.

Besides adding beauty to our world and being interesting to learn about, birds have important functions in our environment. They eat quantities of destructive insects, act as pollinators and seed distributors, and especially, act as indicators of the health of our environment. As canaries were once used to warn of poisonous gases in coal mines, the decline of fish-eating birds such as eagles and Ospreys alerted us to the dangers of DDT. The decline in numbers of songbirds today is warning us that clearing of forests and wetlands, overuse of insecticides, and climate change may be dooming these beautiful and valuable creatures. Just think of how much habitat has been lost as the freshwater tidal marshes at the refuge have shrunk from more than 5,700 acres to today's 300.

Watching birds is fun, easy, and for many people it is a lifelong hobby. While it is helpful to have a bird guide and a pair of binoculars, it is more important to be a good observer and a good listener. As most birds will take flight or hide if startled, it is important to move slowly and quietly. Participating in the bird walks offered at the refuge and other nature sites is an excellent way to get started as a bird watcher.

Keep in mind that all native birds are protected by law and may not be disturbed or harmed. It is illegal even to possess the feathers of some birds without a permit. Make it a rule never to disturb any part of a bird's nest site, nest, eggs, or the animals themselves.

Teaching children about birds is fun and rewarding. Younger children may have more success looking for ducks and other large swimming and wading birds, while older students can sharpen their skills studying the less easily observed species. There are lessons and activities suitable to all educational levels, ages, and levels of interest in the units of this packet.

While there are birds on the refuge throughout the year, the time of year will be a factor in what birds may be present. The greatest numbers of species are seen during migration. The spring peak occurs during the last week in April and the first two weeks of May. The peak of fall migration is from mid-October to the first week in November. The bird lists on pages 15 and 16 will give an idea of what birds may be seen at various times of the year.



Looking for the Birds

Concept

Students use birds at the refuge as an introduction to the natural world.

Objectives

Students will be able to:

1. recognize the main characteristics of a bird.
2. recognize two bird behaviors, for example, flying, feeding, nesting, etc.

Pennsylvania Educational Standards

(Environment & Ecology)
4.7.4B

Pre-trip Lesson

1. Ask the students to relate memories or experiences they have had with birds. Discuss the birds they describe. Are they ducks, "city birds", songbirds, etc.? What do the children like about birds?
2. Explain that the class needs to prepare for their field trip to see birds at the refuge. How should they prepare? Let them offer some suggestions. You may want to use some of those suggestions to prepare the students. Discuss with them some rules that they need to follow if they want to see birds and protect the birds' habitats. The refuge has field guides and binoculars available for teachers to borrow if they have attended a Pre-trip Orientation. To learn more about Pre-trip Orientations, ask refuge staff.

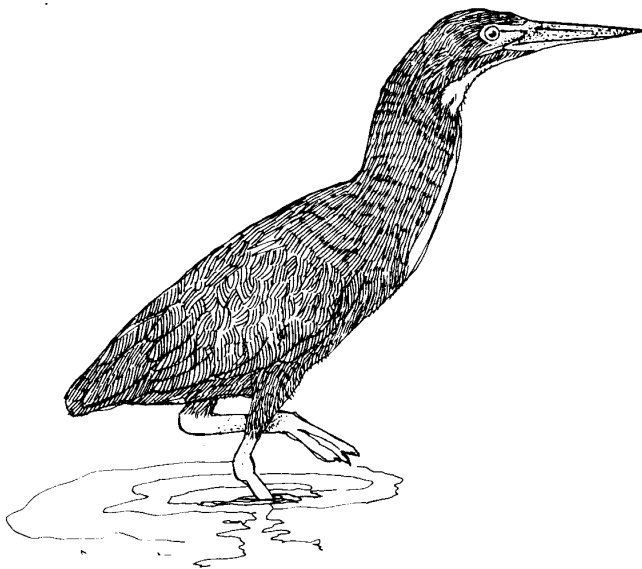


Trip Lesson

1. Provide the students with the Bird Behavior Bingo worksheet located in the appendix.
2. Explain to them that they will be looking for birds doing the activities listed. For example, when they see a bird flying, they should place a mark in the box that shows a bird flying.
3. Walk with the children from the education center to the Observation Tower. The tower is located along the Darby Creek Trail three quarters of a mile from the education center. Ask refuge staff at the front desk for a map and directions to the tower.
4. Point out different birds as you see them. Watch the birds for a few minutes and discuss what the students think the birds are doing. Be sure to refer back to the bingo sheet so that the students can continue to note the various behaviors being seen.



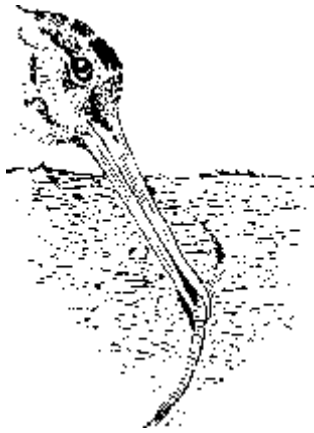
Carolina Chickadee



Green Heron

Post-trip Lesson

1. Have the children describe their favorite part of the trip. What do they remember seeing? Were the birds doing things that we do? Eating, walking, swimming, etc.?
2. Have the children draw or write about the field trip. Display the work on a bulletin board.



Adaptation and Behavior

Concept

Students take a closer look at birds' lives, noting adaptations and behaviors.

Objectives

Students will be able to:

1. define adaptation.
2. describe 2 kinds of bird adaptations.
3. describe a bird behavior and suggest how that behavior helps the bird.

Pennsylvania Educational Standards

(Environment & Ecology)

4.7.4A

4.7.7B

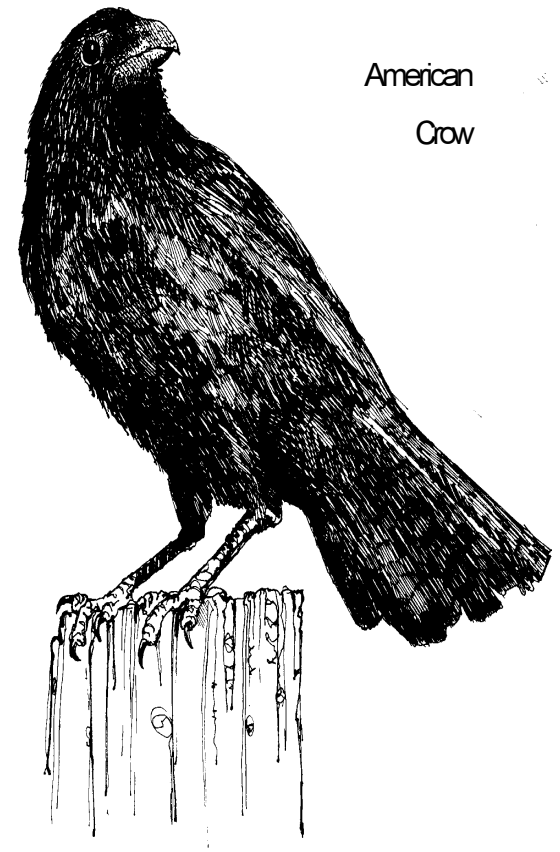
4.7.10B

Pre-trip Lesson

1. Ask the students what they think **adaptation** means. Discuss how animals have become adapted over time for their particular environments. How have humans adapted? How have birds adapted? You may want to use the *Fill the Bill* or *Feet are Neat* activities from *Nature Scope: Birds, Birds, Birds*, available from the refuge, to help illustrate bird adaptations to habitat. These activities work well either as a pre-trip or post-trip lesson.
2. Explain that the class needs to prepare for a field trip to the refuge where they will be looking at birds and the ways birds have adapted to the refuge environment. In the *Fill the Bill* and *Feet are Neat* activities, they saw some adaptations birds have made to adjust to their habitats. Ask the students questions such as, "What are some characteristics that birds have developed over time to help them survive?" Use the *Adaptation and Bird Behavior* information included in this lesson to guide the student's answers.
3. Some scientists study behavior to learn more about birds and what birds need to survive. The students are going to become behavior researchers. As a homework assignment or part of a class, have the students, individually or in small groups, locate a bird near their home or school and watch it for 10 minutes. You may need to remind them that pigeons, starlings, gulls, or sparrows may be used for this lesson. They should record the characteristics of the bird that show how it is adapted to its environment. For example, walking along the ground, flying away, pecking, or catching insects. How is the bird adapted for the activity? Have the students analyze their "data" and draw some conclusions about how behavior and adaptations are related. They should then report their data and findings to the class.

TripLesson

1. Divide the class into small groups, each with an adult leader.
2. Explain to the students and leaders that each group should find three different kinds of birds and observe them for 10 minutes if possible, recording behaviors and adaptations as was done in the pre-trip activity.
3. Students should analyze their data and draw conclusions. They should then set up a chart comparing the different birds including the one from the Pre-trip activity. How were behaviors similar or different? Did the habitat play a role in how the birds behaved? Which birds seemed more afraid of people? What adaptations allowed them to use their habitat efficiently?
4. Have students put their observations and answers to the questions in their journals.



American
Crow

PosttripLesson

American Robin



1. Have the children present their findings at a "Symposium of Bird Behavior and Adaptations". Allow each group 5-10 minutes to give a presentation. Students may want to develop visual aids (pictures of the birds they observed, comparison charts, etc.)
2. Using the birds that the students saw at the refuge (or birds on the checklist in the appendix), have the students choose one to research for its behaviors (when it nests, what kind of nest does it build, etc.) The students will present this information to the class or make a "John Heinz National Wildlife Refuge at Tinicum Bird Field Guide".

Bird Adaptation and Behavior

An adaptation is a trait that an organism has developed to enable it to survive in a certain habitat. Birds have adapted in many ways. Ducks, for example, have webbed feet which allow them to swim in the water to find their food. Their bills are adapted to strain aquatic insects and plants out of the water. Woodpeckers have two toes facing forward and two toes facing backward to allow them to perch on the side of trees.

A behavior is something an organism does in response to a particular situation. Observing bird behavior allows you to understand the lives of different birds. For example, did you know that when a goose pumps its head up and down, it is giving you a warning to leave it alone?

Behaviors are often associated with warning, territory, and courtship. Below are some of the behaviors of a Canada Goose and Tree Swallow - two of the refuge's more common birds.

Canada Goose

Bentneck:

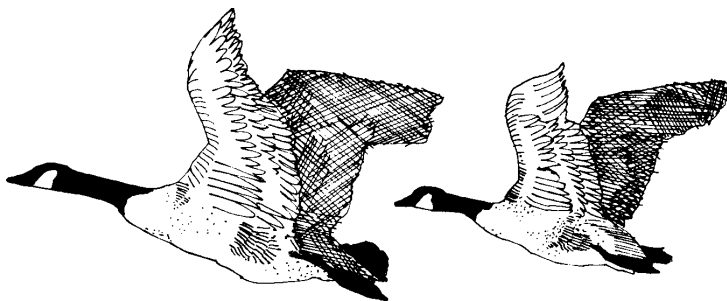
Neck is coiled back; the head is lowered and pointed toward the opponent. Usually this is considered a mild threat. Hissing may also occur.

Head Forward:

Neck is extended and head is held low and pointed toward opponent. This is an expression of increased threat and attack.

Head Pumping:

Head is raised and lowered quickly in a pumping motion. This behavior is displayed in conflict situations and often precedes direct attack.



Canada Goose

Tree Swallow



Tree Swallow

Flutterflight:

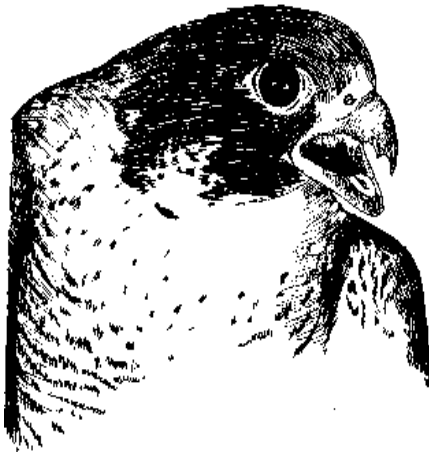
Male will hover or fly short distances with rapid, shallow wingbeats, usually near the female and associated with courtship and mating.

Bowing:

Two perched birds approach each other, rhythmically bowing the front halves of their bodies toward the ground. This behavior is performed near the nest site and is associated with courtship.

Billing:

Two birds touch bills. This occurs between mates near the nest and is associated with courtship.



Interview with a Bird

Concept

The students will become familiar with bird adaptations and behaviors by examining those of one particular species in detail.

Objectives

Students will:

1. develop interview questions.
2. research the life habits and characteristics of a bird.
3. present their information to the class.

Pennsylvania Educational Standards

(Environment & Ecology)

4.7.10A
4.7.10B

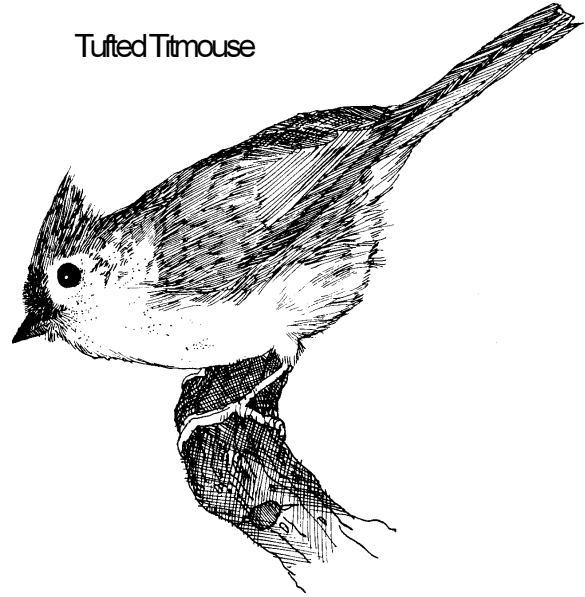
Pre-trip Lesson

1. Discuss parts of an interview: The introduction, the interaction, and the closing. *"In this exercise you will imagine an interview with a bird that you don't know much about."*
2. Have each student select a bird that he or she would like to get to know from the bird checklists on pages 15 & 16. Students could work in pairs.
3. Ask the students to imagine they have a chance to meet and talk to the bird. What questions would they ask it? Have the students develop questions that will enable them to learn about how and where the bird lives. What traits make its life easier or harder? If the answer to one question leads to another, have the students add it to their lists and begin to look for an answer.
4. Use bird field guides and other resources to begin to answer the questions. Explain that they will be looking for those birds during the field trip.
5. Using the refuge's bird checklist brochure or the checklist located in the appendix, have the students determine which birds may **migrate** through the refuge but not nest here. Migration is the movement of a bird species from one area to another. It usually occurs during a change of season and changes in food sources. (Those listed as common in the spring and fall but uncommon or rare during the winter and summer are the birds which use the refuge as a stop over but not as a nesting location.)

TripLesson

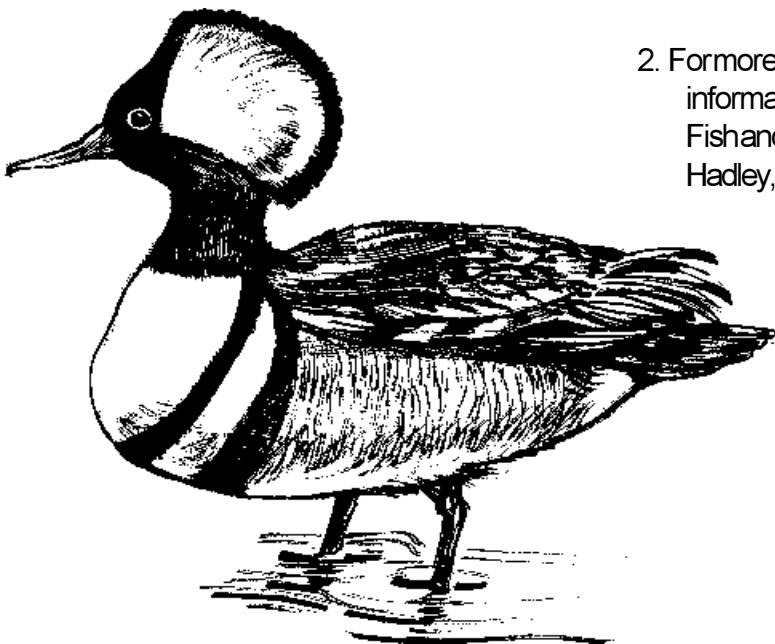
1. Divide the students into small groups with an adult leader. Each student should present to the others in his/her group the information about his/her bird- particularly how to identify it.
2. Let the groups go out into the refuge to look for their birds. When they observe them, tell the students to look for clues to help answer their interview questions.
3. When they return, discuss as a class what birds they saw or didn't see. The discussion could turn to reasons why the birds were or were not seen. Weather patterns such as fronts, temperature, and other reasons such as time of day can be factors.

Tufted Titmouse



Post-tripLesson

1. The students can present their findings to the class. They can make it fun by partnering with another person who could be either the interviewer or the bird. The presentation should include a description of the bird, how it is adapted for the life that it leads, its migration path, some of the problems it faces and what solutions are available.
2. For more information, the students may request information from the Migratory Bird Office of the US Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, MA 01035-9589.



Hooded Merganser



Identifying the Birds

Pre-trip Lesson

Concept

Students learn how to identify birds in their natural habitat.

Objectives

Students will be able to:

- 1. list three items to look for when identifying birds.**
- 2. identify one bird.**
- 3. describe the migration route of one bird species.**

Pennsylvania Educational Standards

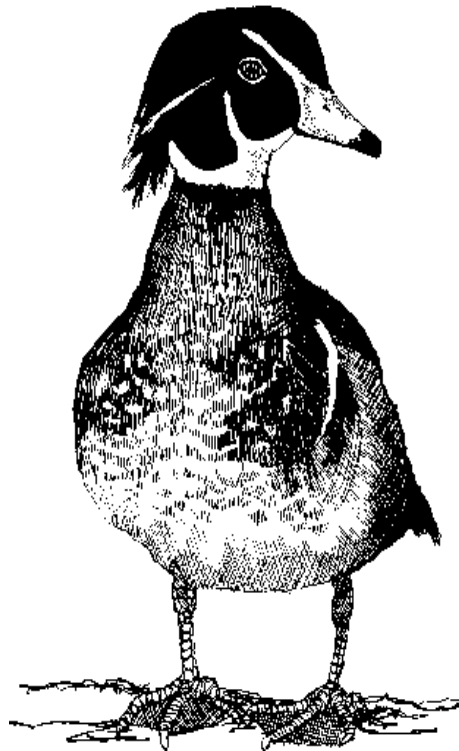
(Environment & Ecology)

**4.7.4A
4.7.7A
4.7.10A**

1. Discuss with the students what traits they use to identify their friends. Have each student choose a partner. Have each student write his or her partner's name and five physical clues that would identify that person. Place the clues in a basket, mix them and pull out one clue list. Read the clues one at a time until the students can determine which student is being described. Have that student read the next clue list.
2. Explain that identifying birds is based on using similar clues and for many people has become a life-long "game" of trying to see how many different kinds of birds they can view and learn to recognize. Discuss how the clues they used to describe each other may relate to identifying birds. Does someone wear glasses? Perhaps a bird may have an eye-ring! In the same way, a person's hair or eye color or clothing can be related to bird coloration, or feather patterns. Use field guides to help with this exercise.
3. Divide the students into "bird" groups such as waterfowl, wading birds, warblers, mimics, birds of prey, and woodpeckers, etc. Have them research the habitats in which they may find their birds and develop identification clue cards for some of the birds in the group. Explain that their cards will be used during their field trip to the refuge.
4. Utilize photos, slides, drawings, posters, or field guides to familiarize students with the appearances of some of the species commonly seen at the refuge. These might include Canada Goose, Great Blue Heron, American Crow, Carolina Chickadee, Mallard, American Robin, Ring-billed Gull, and Downy Woodpecker.

TripLesson

1. On the day of the trip, spend a few minutes letting students practice describing each other as they did in the Pre-trip lesson.
2. Demonstrate (or ask that a refuge staff member demonstrate) the proper use of binoculars.
3. Divide students into groups, each with an adult leader. Each group will go out into the refuge and try to identify four birds. Groups should make notes about the habitat in which each bird is found.
4. If the students see birds they cannot identify, encourage them to make field notes so they can look at field guides afterwards to see if they can make an identification.
5. Have the students compare their sightings to those on the sightings list in the education center.



Wood Duck

Post-tripLesson

1. Review the birds the students have seen and identified. If they have notes on birds that are still unidentified, they can continue to work on those.
2. Have individual or pairs of students choose one of the birds seen and identified, and research the habitat requirements of that bird more thoroughly. If the bird is a migratory species, the students can study its migration patterns.
3. Make a collage of the birds seen using photos they have found in magazines or on the internet.
4. Do the crossword puzzle located in the appendix.



Ring-necked Pheasant

(Introduced from Asia
for hunting purposes)



American
Kestrel

What's That Bird?

Tips for Identifying Birds

On a field trip to the John Heinz National Wildlife Refuge at Tinicum, teachers may be asked, "What's that bird?" Teachers can learn a little about the birds of the refuge ahead of time, or they can enjoy identifying the birds along with their students, helping them to develop their observational skills. Teachers can ask, "What color is the bird?", "What is it doing?", "Do you see anything special about it?".

Encourage students to notice the size of a bird. An easy way for children to judge the size of a bird is to compare it to a known bird. Most children can recognize a sparrow, American Robin, or Rock Pigeon, and use the sizes of those familiar birds for comparison. The actual sizes of birds can be found in field guide books and may assist older students in making identifications.

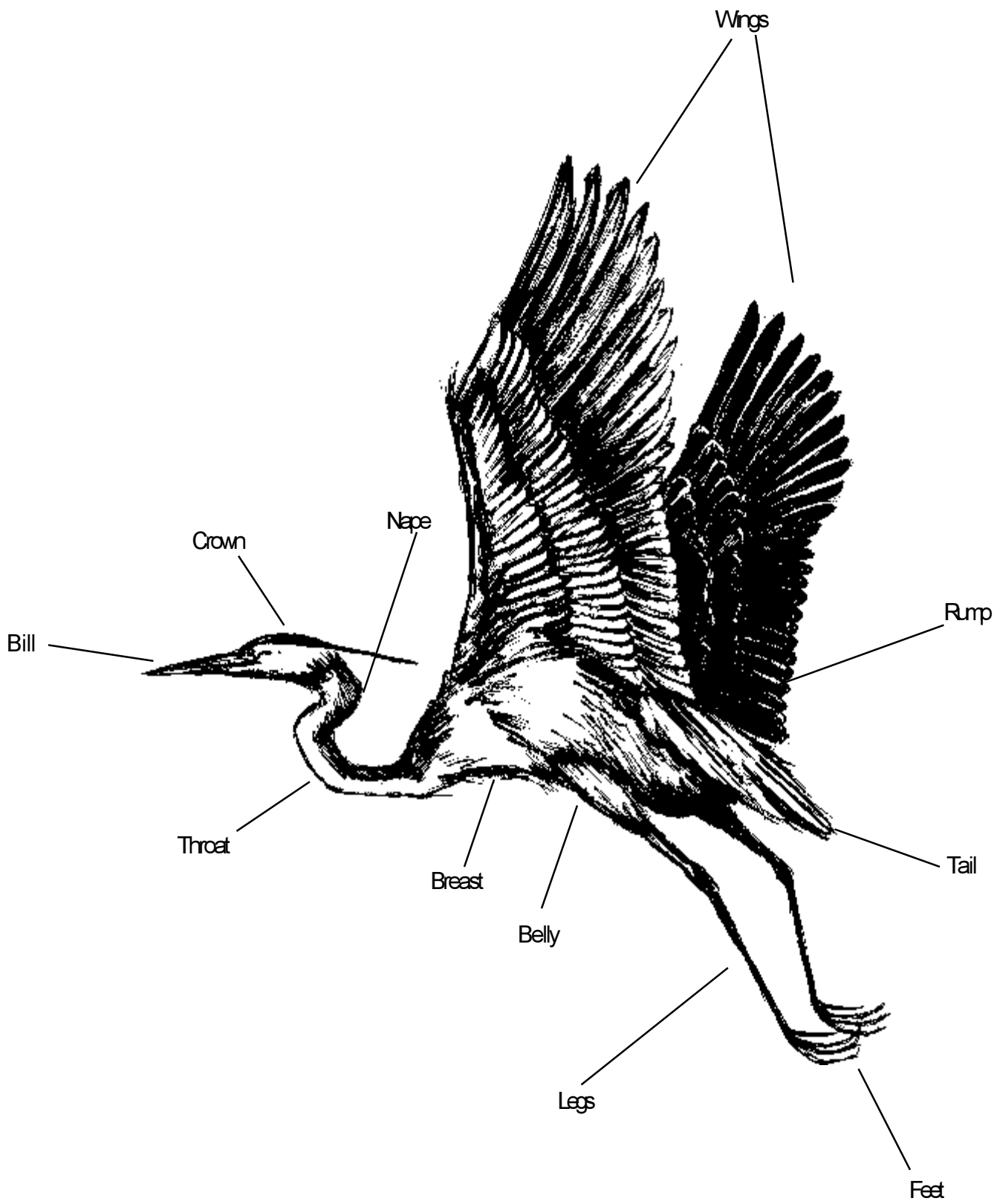
The general shape of a bird can also be compared to the shape of a familiar bird. Does the bird have the songbird shape of an American Robin? Is it a long-legged wader like a Great Blue Heron? Students can also notice the size and shape of the bill or even of the wings and tail if the bird is in flight.

The color of a bird can afford the most useful clue. A bright red bird in the refuge will probably be a Cardinal. A small yellow bird, in the summer, will no doubt be a Yellow Warbler while a black bird with red patches on its wings is almost surely a Red-Winged Blackbird.

More skilled observers can look for other **field marks**. These are special characteristics shown by certain species. Examples might include the crest on a Blue Jay, or the dark spot on the breast of a Song Sparrow. Perhaps there are white bars on the wings, a white tail tip, a spotted or streaked breast - each one of these could be a clue in correct identification.

The location and actions of a bird can also be clues. Is it hopping along the ground like a sparrow? Perhaps it is flitting quickly among the branches of a tree like a warbler, wading in the water like a heron, swimming about like a duck, or soaring high in the sky like a hawk or vulture. A tail held straight up may be the field mark of a wren.

Flight patterns such as the roller coaster dips of an American Goldfinch or the straight, determined flight of a Mourning Dove can be observed. Although identifying bird sounds take a good bit of practice, even a novice can tell if a bird squawks, quacks, or whistles.





Create your very own bird list for the refuge! Cut along the dotted lines of this page. Assemble the booklet, fold and staple along the solid line. You are done! Happy Birding!



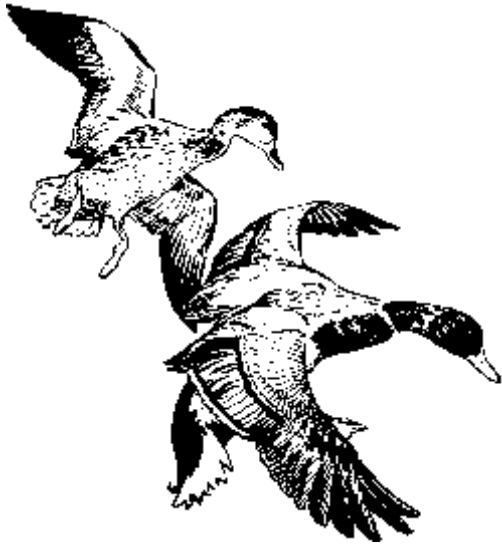
Bird Lists for the
John Heinz National
Wildlife Refuge
at Tinicum

Typical Autumn Birds

- ___ Great Blue Heron
- ___ Mallard Duck
- ___ Turkey Vulture
- ___ American Crow
- ___ Tree Swallow
- ___ Tufted Titmouse
- ___ Carolina Chickadee
- ___ House Wren
- ___ Northern Cardinal
- ___ Red-winged Blackbird
- ___ American Goldfinch
- ___ Common Grackle
- ___ House Finch

The most common birds found at the
refuge year-round

- ___ Great Blue Heron
- ___ Hawk (usually Red-tailed)
- ___ Gull (usually Ring-billed)
- ___ Canada Goose
- ___ Mourning Dove
- ___ Downy Woodpecker
- ___ American Crow
- ___ Tree Swallow
- ___ American Robin
- ___ European Starling
- ___ Northern Cardinal
- ___ Red-winged Blackbird
- ___ Common Grackle



Male and Female Mallard Duck

Typical Winter Birds

- ☐ Great Blue Heron
- ☐ Canada Goose
- ☐ Mallard
- ☐ Northern Shoveler
- ☐ Northern Pintail
- ☐ Green-winged Teal
- ☐ Sharp-shinned Hawk
- ☐ Red-tailed Hawk
- ☐ Ring-billed Gull
- ☐ Great Black-backed Gull
- ☐ Downy Woodpecker
- ☐ American Crow
- ☐ Song Sparrow
- ☐ White-throated Sparrow

P.5

Typical Spring Birds

- ☐ Great Egret
- ☐ Green Heron
- ☐ Greater Yellowlegs
- ☐ Barn Swallow
- ☐ Tree Swallow
- ☐ Red-winged Blackbird
- ☐ Brown Thrasher
- ☐ Gray Catbird
- ☐ Warbling Vireo
- ☐ Common Yellowthroat
- ☐ Yellow Warbler

P.2

Typical Summer Birds

- ☐ Great Blue Heron
- ☐ Wood Duck
- ☐ Mourning Dove
- ☐ Tree Swallow
- ☐ Marsh Wren
- ☐ Carolina Wren
- ☐ Red-winged Blackbird
- ☐ European Starling
- ☐ Northern Mockingbird
- ☐ Yellow Warbler
- ☐ Swamp Sparrow
- ☐ Northern Oriole

P.3

Resources for Teachers

Some of these resources may be found in the refuge's library.

Field Guides

- *All the Birds of North America*. American Bird Conservancy. HarperCollins Publishers, Inc., New York, NY, 1997.
- *Golden: A Field Guide to the Birds of North America*. Robbins, Bruun, Zim, Singer. Golden Press, New York, NY., 1983.
- *Long-legged Wading Birds of the North American Wetlands*. Niemeyer and Riegner. Stackpole Books, 1993.
- *National Audubon Society Field Guide to Birds*. Knopf, 1997.
- *National Geographic Society Field Guide to the Birds of North America*. National Geographic Society, Washington, D.C., 1987.
- *Peterson First Guide to Birds*. Roger Tory Peterson. Houghton Mifflin Co., 1986.
- *Peterson Field Guide for Eastern Birds*. Roger Tory Peterson. Houghton Mifflin Co., New York, NY, 2002.
- *Peterson Field Guide Series- A Field Guide to Birds' Nests: U.S. East of the Mississippi River*. Hal Harrison. Houghton Mifflin Co., New York, NY., 1975.
- *The Sibley Guide to Birds*. David Allen Sibley. National Audubon Society. Alfred A. Knopf, New York, NY., 2000.

Reference Books and Guides

- *All the Backyard Birds*. Jack Griggs. Perennial, 1998.
- *Birds of Pennsylvania*. James and Lillian Wakely. Pennsylvania Game Commission, Harrisburg, PA 1989.
- *Birds- Winter and Year-Round Activities for Children*. Cayuga Nature Center. 1990.
- *Birdwatching For All Ages*. Jorie Hunken. 1992.
- *Garden Birds- How to Attract Birds to Your Garden*. Dr. Noble Proctor. Rodale Press, 1987.
- *Golden Guide to Bird Life*. St. Martin's Press 1991.
- *Lives of North American Birds*. Ken Kaufman. Houghton Mifflin, New York, NY., 1996.
- *Nature Scope- Birds, Birds, Birds*. National Wildlife Federation. 1989.

Videos

A Home For Pearl. U.S. Fish and Wildlife Service & National Fish and Wildlife Foundation. 1990.

Some Familiar Examples of Birds in Literature:

William Cullen Bryant, "To a Waterfowl"

Samuel Taylor Coleridge, "The Rime of the Ancient Mariner"

Robert Frost, "The Crow"

John Keats, "Ode to a Nightingale"

Edgar Allan Poe, "The Raven"

Percy B. Shelley, "To a Skylark"

Henry Wadsworth Longfellow, "Birds of Passage"

William Wordsworth, "To the Cuckoo"

Additional Readings

Birds in Literature. Leonard Lutwack. University Press of Florida, 1994.

On Wings of Song, Poems about Birds. J.D. McClatchy, Yale Press.

Roger Tory Peterson's Colors. Rudy Hogland. Universe Publishing, 2002.

Take a Backyard Birdwalk. Laura Erickson. Stillwater Publishing, 2001.

The Windmasters. Pete Dunne. Houghton Mifflin, 2002.

Websites

www.americanbirding.org/ABASales - an excellent website for books and other materials on birds.

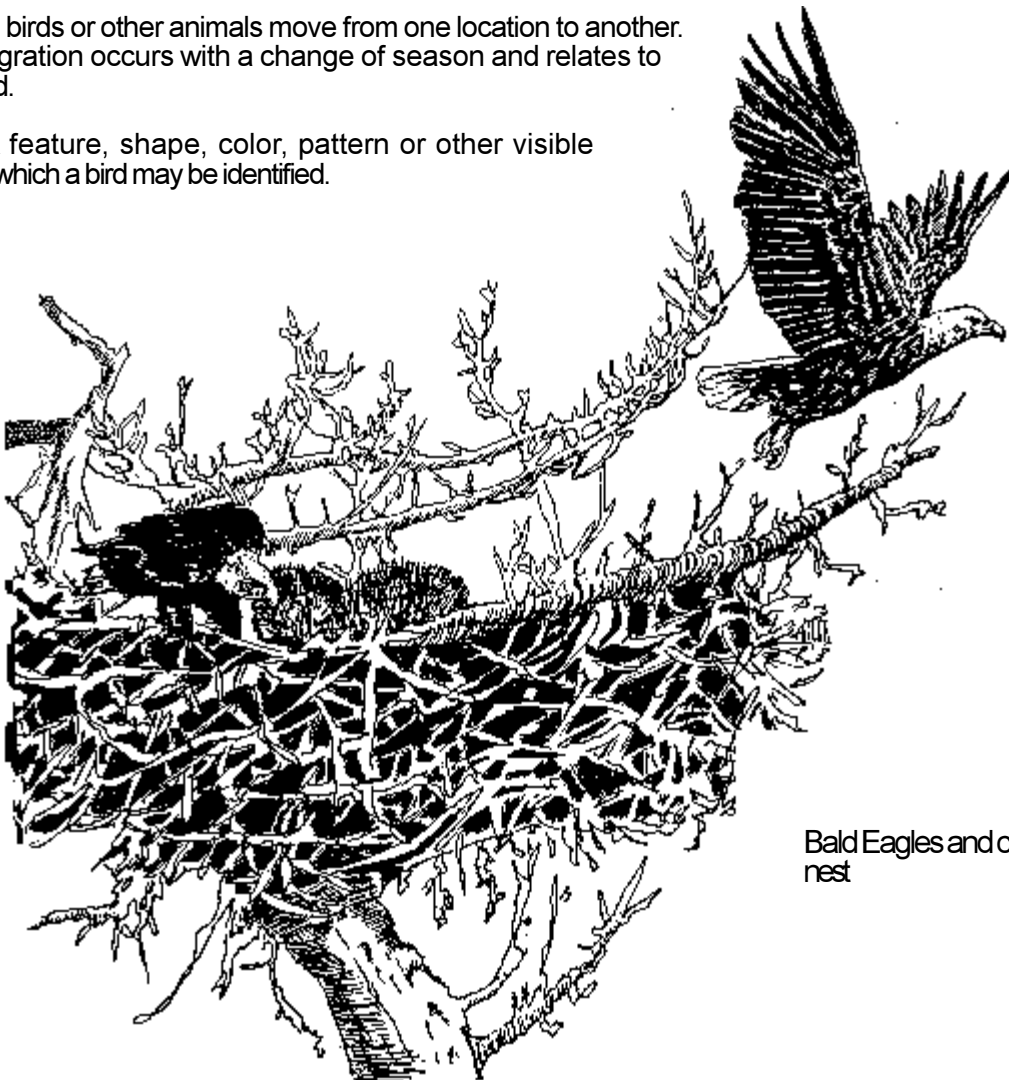
www.usd.edu/~tgannon/bird3.html - an excellent website for poems about birds.

Vocabulary

Adaptation - An alteration or adjustment in structure or habits by which a species or individual improves its condition in relationship to its environment.

Migrate - When birds or other animals move from one location to another. Typically the migration occurs with a change of season and relates to availability of food.

Field Mark - A feature, shape, color, pattern or other visible characteristic by which a bird may be identified.



Bald Eagles and chicks on a nest

Agencies and Organizations

American Birding Association

P.O. Box 6599
Colorado Springs, CO 80934
800/634-7736
www.americanbirding.org

Audubon Society

PA State Office
100 Wildwood Way
Harrisburg, PA 17110
717/213-6880
www.audubon.org

Bird Club of Delaware Valley

Meetings are held the 2nd Wednesday of each month September through June at 7:30pm. Meeting location is at the Marple Township Library at Sproul and Springfield Roads in Broomall, PA.

Cape May Bird Observatory

Northwood Center
701 E. Lake Drive
Cape May Point, NJ 08212
<http://nj.audubon.org>
609/884-2736

Cape May Bird Observatory Center for Research and Education

600 Route 47
Cape May Courthouse, NJ 08210
609/861-0700

Hawk Mountain Sanctuary

1700 Hawk Mountain Rd.
Kempton, PA 19529
610/756-6961
www.hawkmountain.org

National Audubon Society

700 Broadway
New York, NY 10003-9501
1-212-979-3000
www.audubon.org

National Fish and Wildlife Foundation Neotropical Migratory Bird Conservation Program

1120 Connecticut Ave., N.W.
Suite 900
Washington, D.C. 20036
202/857-0166
info@nfwf.org

New Jersey Audubon

P.O. Box 125
790 Ewing Ave.
Franklin Lakes, NJ 07417
908/204-8998
<http://nj.audubon.org>

Patuxent Wildlife Research Center National Biological Service

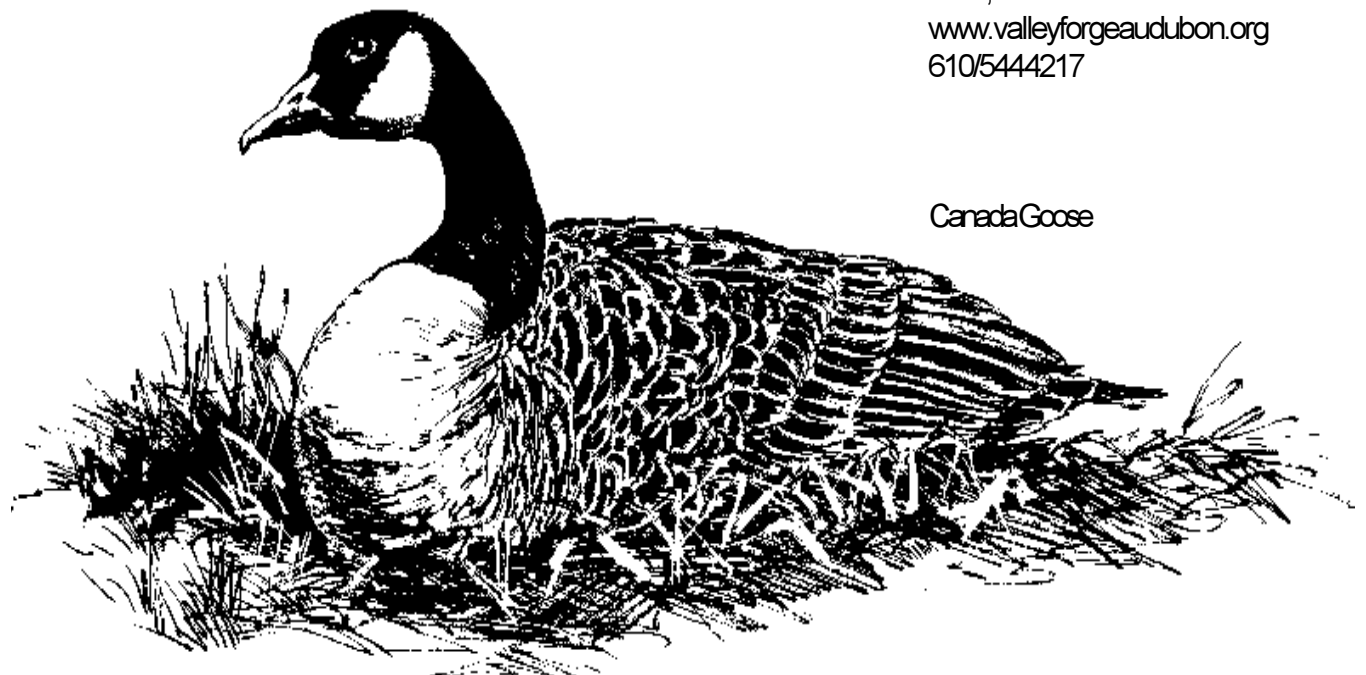
12100 Beech Forest Rd.
Laurel, MD 20708-4036
301/497-5500
www.usgs.gov

U.S. Fish and Wildlife Service Office of Migratory Bird Management North American Waterfowl and Wetlands Office

4401 N. Fairfax Drive
Suite 634
Arlington, VA 22203
703/358-2318
www.fws.gov

Valley Forge Audubon Society

P.O. Box 866
Paoli, PA 19301-0866
www.valleyforgeaudubon.org
610/544-4217



Canada Goose

Hollow-boned

Singers

Hollow-boned singers

Descended from dinosaurs

The sky is our home.

From The Beauty of
the Beast, Jack
Prelutsky

Pigeon

Pigeons are city folk

content

to live with concrete

and cement.

They seldom

try

the sky.

A pigeon never sings

of hill

and flowering hedge

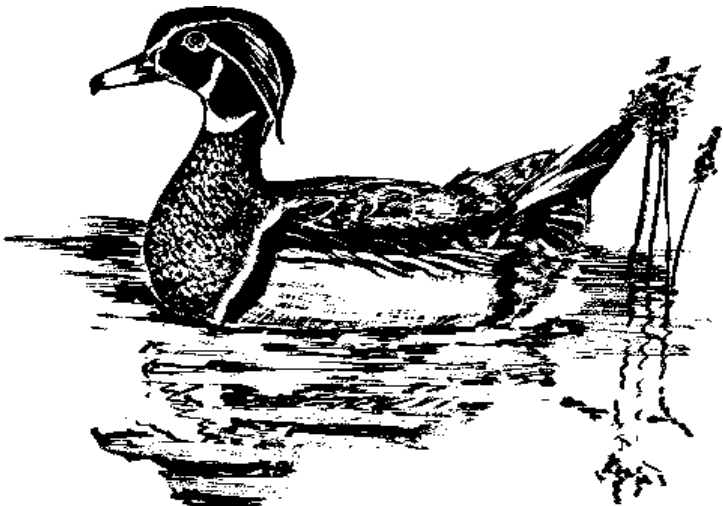
but busily commutes,

from sidewalk

to his ledge.

Oh pigeon, what a waste of wings!

Lillian Moore



Dust of Snow

The way a crow

Shook down on me

The dust of snow

From the hemlock tree

Has given my heart

A change of mood

And saved some part

Of a day I had rued.

Robert Frost

For the Birds

If La Gazza ladra's magpies appear a bit aloof,
and Mozart's Papageno - seems too much for today's youth.
Then turn instead to lighter fare, memories free and loose
like fairy tales of childhood, and rhymes from Mother Goose.



Birds fly through the dreams of man,
To the arts they are well tethered,
Be they western, African, or Asian descent,
of a feather, they flock together.

Pop culture's filled with fowl,
flapping from all quarters.
We see them day and night as
they wade through Avian waters.

Anderson's Ugly Duckling,
Tchaikovsky's Lake of Swans,
Birds swim through all our arts
'long rivers, lakes, and ponds.

While Hitchcock's cinematic birds
produced in us much fear.
In our feathered friends
there is still much that we hold dear.

The Crow is now a movie
pop culture knows the score.
Will we ever sate our need for birds?
Quoth Raven, "Nevermore"

Alliyah watched us like a hawk
and danced across our screen...
Her video reminded us,
of raptors yet unseen.
Remember! Birds be universal
much larger than Apollo
We return again and again to this theme -
like Capistrano's Swallows

Don't ruffle your feathers! I've said my piece.
I'll leave with just a peck
I hope my thoughts won't be for you,
an albatross 'round your neck.

Larry Stier

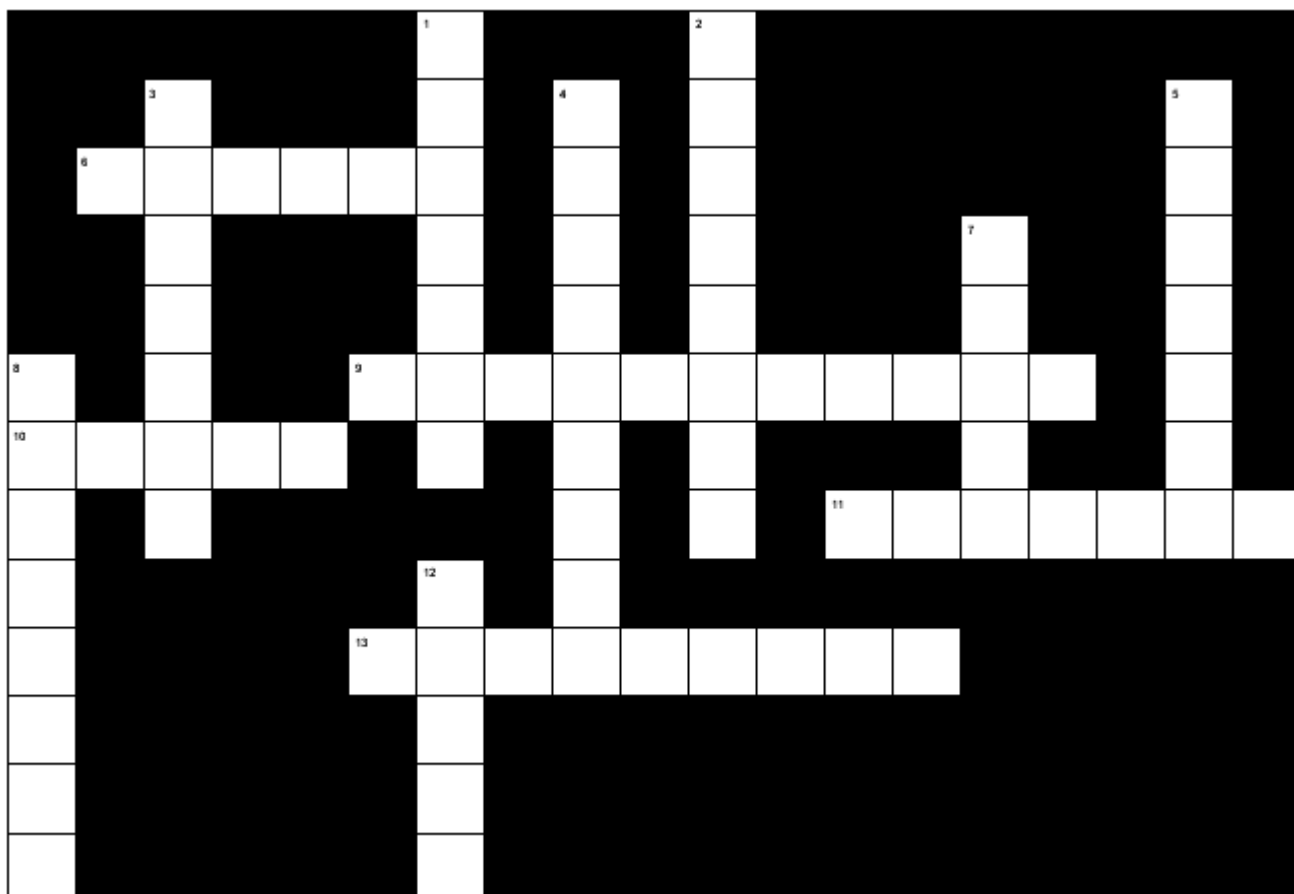
Vare Charter Middle
School & REED Team
charter member



Bird Behavior Bingo

Feeding	Flying	Nest-building
Preening	Singing	Wading
Sleeping	Swimming	Running
Soaring	Hovering	Scratching
Standing	Drilling	Floating

Birder's Puzzle



Across Clues

- 6. Common goose
- 9. Can copy or mimic the songs of other birds.
- 10. Very tall bluish wader.
- 11. Gray bird that hides in the bushes making a meowing call.
- 13. Yellow bird with black wings, tail, and forehead in the summer.

Down Clues

- 1. Graceful bird with pointed wings often seen flying over the pond
- 2. Male is bright red.
- 3. Male duck has a glossy head.
- 4. Marsh loving bird with red on its shoulder.
- 5. Group of small birds that include the yellow, yellow rumped, and common yellowthroat
- 7. Tall white wader
- 8. Large bird that looks something like a chicken and introduced in Pennsylvania.
- 12. The male has a brick red breast.

July 2001

